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342 frame. To support the roof, a series of parallel rafter poles extends
335 from the ridge pole on each side to the longitudinal runners. These

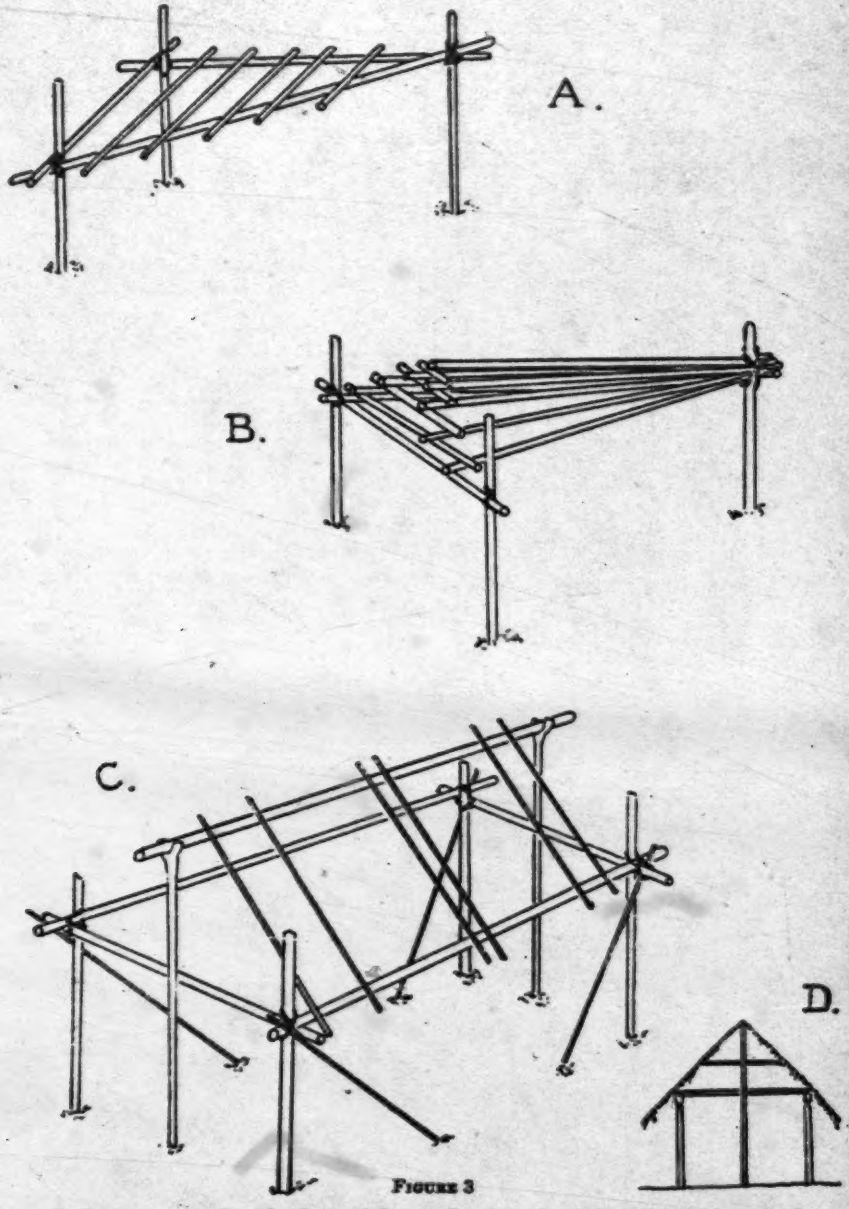

FIGURE 3

Shelter types: A, triangular flat-roofed type; B, triangular shelter with gable roof; C, rectangular shelter with gable end, ridge-pole supported on two forked sticks; D, Nose'-roto, or steep-pitched, high-roofed type of house with high cross-struts.

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484 rafters are in some cases further strengthened by longitudinal
342 stringers on the under side.

342 Let us now turn to an examination of the permanent dwellings
335 of the Caribs. The standard type of dwelling throughout the area from the head to the mouth of the river is a gabled-roofed thatched house without walls. Two varieties of this type occur, having four and six upright supports respectively. These I have termed the four (apototo) and six-pillar (miemboto) types.[1] The house, or owto, is built as follows. After a level site for the dwelling has been selected with due regard for privacy and convenience, the position of the pillars (wakapu) is determined by measuring out the ground plan with a pole on which the proper dimensions or fractions have been marked. The size of the house depends upon the number of persons living in it, the wealth of the owner, the amount of assistance he will have in building it, and the availability of materials in suitable quantities. For instance, in a region where roofing materials must be carried long distances, smaller houses will be built than where they are readily at hand. The holes to receive the pillars are started with a hoe and enlarged with a digging stick. When the hole has reached a depth of about six inches, the pillar, the inferior end of which has been sharpened to a point with the cutlass or axe, is introduced and "tomped" into place by repeatedly lifting it with the two hands and forcing it into the ground until it rests solidly with about a foot of its length below the surface of the ground. The earth is then filled around the pillar in the upper part of the hole and well stamped into place. Due care is taken that the upper ends of the pillars shall be of approximately equal height above the surface of the ground. The height of the pillars varies with the house, but averages between seven and eight feet. When a pillar is prepared, the bark is first removed from a log of wood of suitable length, the inferior end is sharpened as already mentioned, and the top flanged or whittled into a broad fork to receive the stringer or tie-beam (Plate 13, *b*). When the pillars are in place, the runners (apopono), one of which connects the tops of the pillars along each side of the house, are put in position. Usually they are not tied to the pillars but rely upon the flanges in the pillar tops and the weight from above to keep them in position. Next the tie-beams (tchurapa), which

[1] At Piai and Turingbang settlements I found the houses of the settlements to be exclusively temporary shelters of the C type. The inhabitants said that the settlements had not been established sufficiently long to allow for the erection of permanent dwellings.

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transversely connect each pair of pillars, are laid in place with their ends lying on top of the runners, to which they are sometimes tied with bush rope. Then the ridge pole supports (owto returu) are placed in position. These supports are long poles of lesser diameter than the pillars; their inferior ends are sharpened to a point and forced into the ground to a depth of about a foot; their superior ends are provided with natural forks, in which the ridgepole rests; one ridge pole support is set in line with and midway between each pair of pillars and is tied with bush rope to approximately the middle of the tie-beam which connects the two pillars in question. Thus a four-pillar house has two ridge pole supports, a six pillar house three (Plate 14, *a*). The ridge pole (de'atu-lu tano) is next placed in the forks of the supports and tied to them with bush rope. The stage is now set for building the framework of the roof (roof: dioneru). First the wall-plates (asariaponi) are placed in position, resting on the ends of the tie-beams and firmly tied to the ends of these beams; there are two wall-plates, one for each side of the house, running longitudinally and connecting the ends of the several tie-beams. The wall-plates, as well as the ridge pole, are carried two or three feet beyond the pillars at each end of the house, in order to provide a foundation for the overhang of the roof. The wall-plates provide the lateral support for the rafters, whose medial support is the ridge pole. The rafters (iararu), as shown in the photographs, are slender poles of sufficient length to provide the foundation for wide eaves at the sides of the house, that is, from the ridge pole to within two or three feet from the ground. About three inches from the end of the rafter which lies over the ridge pole, a notch is cut to a depth of approximately one half the diameter of the rafter. When in position the ridge pole is received into this notch (Plate 15, *a*). The rafters are tied to the ridge pole in pairs, one on either side with the ends of each pair projecting over the ridge pole side by side. Each rafter is firmly tied to the wall-plate at the point where it crosses. When the rafters have been secured, the roof-binder, a slender pole equal in length to the ridge pole, is placed in position longitudinally above the ridge pole; the roof binder lies in the forks made by paired ends of the rafters as they project beyond the ridge pole (Plate 14, *b*). This arrangement provides extra stability for the ridge of the roof.

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341 Finally, the medial runner (otondano) is placed in position. This
335 is a pole which runs the full length of the house in the median line and is firmly tied to each of the points where a tie-beam crosses a ridge pole support (Plate 14, *a*). When the house is completed, sticks (sura) are laid from the medial runner to the lateral runners under the eaves, thus making a sort of rack or loft on which articles can be stored.

Before describing the methods of thatching roofs, it may be well to consider several variants of the above method of making house frames. In one type of house the roof frame is held in position without the use of ridge pole supports. Stability is given at intervals by the use of transverse struts connecting the two members of a given set of rafters at a distance of about two feet below the ridge pole. Additional stability is afforded by the use of diagonal struts, tied to the under sides of the rafters. In building a roof of this kind, temporary ridge pole supports are used while the rafters, roof binder, and struts are secured in position (Plate 16, *b*).

The small four-pillar house is sometimes built without the use of wall-plates. In this type of construction it will be noted that the rafters rest directly upon the longitudinal runners, which in turn rest upon the transverse tie-beams. (In the standard design the tie-beams rest upon the runners.)

342 A number of different species of palm leaves are used for thatch-
824 ing the roofs of the houses. These include truli (*Manicaria saccifera*), ite (*Mauritia flexuosa*), dallibanna (*Geonoma baculifera*), kokerite (*Maximilliana regia*), manicol (*Euterpe edulis*), tura (*Oenocarpus bacaba*), and ballidanna (unidentified). These materials do not occur in equal quantities throughout the area, so that one village may be thatched with one combination, another with a different material. Inasmuch as Roth has described with great preciseness the sundry details regarding the making of the different types of thatches,[1] I shall content myself with a general description and the mention of a few points not covered by him.

All types of thatch are attached to the rafters with the help of stringers. These are frequently made of konapuri wood (a small tree which somewhat resembles kokerite in appearance). The stringers are tied to the rafters in a number of ways, as figured by Roth, by a continuous piece of nibi which runs the entire length

[1] Roth, 1924, *An Introductory Study of the Arts, Crafts, and Customs*, pp. 265–270.

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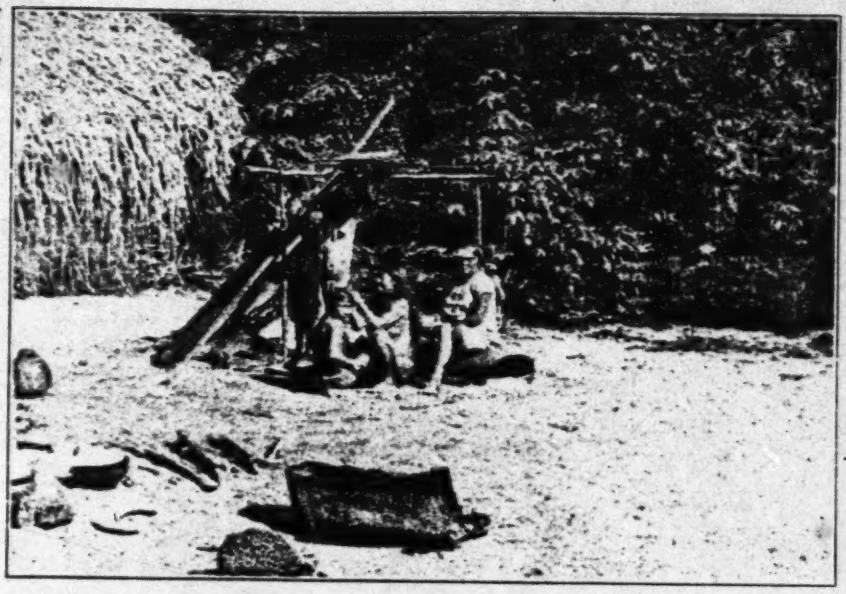

a, A group of women delousing each other. The forehead of the woman sitting on the cassava trough at the right is decorated with a tuft of white powis-down. The frame work is a rack for drying meat and other foods in the sun.

335

b, Details of house construction. Note forked or flanged top of pillar on which rest the runner, tie-beam, and wall plate (longitudinal beam supporting rafters).

[End plate 13]

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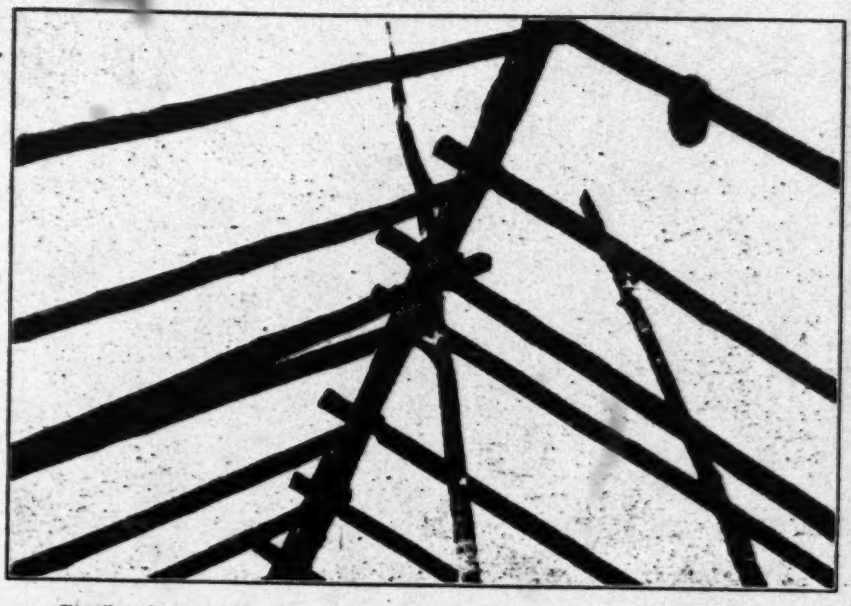

a, Details of house construction. Note notches in rafter ends to accommodate ridge-pole.

b, Typical Carib house, four-pillar construction.

[End plate 15]

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a, House in process of roofing. Note scaffolding of poles near ground to support roofer. This house is built without supports for the ridge-pole.

b, Same as a.

[End plate 16]